

Office of Naval Research
Ocean, Atmosphere, & Space
Science & Technology Department
(Code 32)

Preproposal Conference
for
MATOC Support Services

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Ocean, Atmosphere, & Space (OAS)

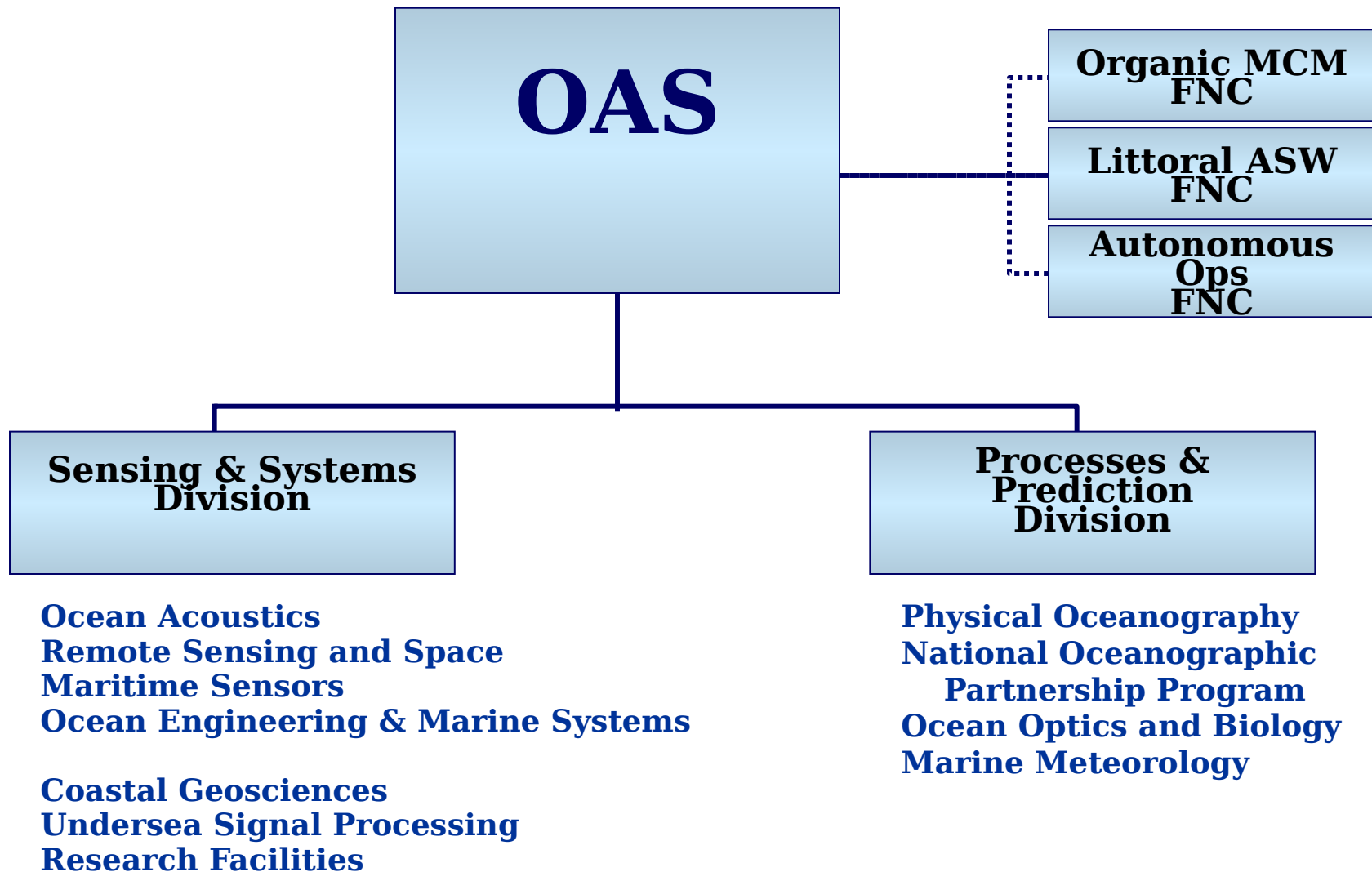
Department Vision:

Revolutionize target characterization within the oceans via separation of sensing, weapons, and communications nodes to achieve sudden warfighting advantage.

PAYOFFS:

- Overcome anti-access strategies
- Low cost, low FAR, autonomous characterization of targets
- More efficient use of platforms
- Precision situational awareness and environmental characterization
- Important new tools for special operations
- Prevention of optempo-draining searches for undetected threats

OAS Department Organization



<http://www.onr.navy.mil/oas>

OAS Focus Areas

- **Battlespace Environments (BSE) (Operational Environment)**
Observing, modeling, and predicting both small and large scale processes in the air/ocean/shore environments. It contains the traditional oceanographic and meteorological disciplines and encompasses: Environmental Processes, Sensors/Data, Model Development, Data Assimilation and Information Exploitation, and Validation Studies.
- **Mine Warfare (MIW)**
Detecting, localizing, identifying, and neutralizing mines in both the ocean and littoral environment, and improving offensive mining capabilities. Also includes Naval Special Warfare/Explosive Ordnance Disposal. Also includes Naval Special Warfare/Explosive Ordnance Disposal. Encompasses: Organic Minehunting (Sensing/Processing), Mine/Obstacle Neutralization, Sweeping/Jamming, Mining, and Advanced Force Operations.
- **Antisubmarine Warfare (ASW)**
Detecting, localizing, and classifying submarines with active and passive acoustics as well as non-acoustic means. These are enhanced by automated data fusion and coupling with environmental understanding and modeling. Encompasses: Cooperative ASW, Wide-Area ASW Surveillance, and Battlegroup ASW Defense. This investment area includes the Littoral ASW Future Naval Capability effort.

Sensing and Systems Teams

- **Ocean Acoustics** The Ocean Acoustics Program supports research which addresses an understanding of the physics of the generation, propagation and scattering of narrowband and broadband acoustic (and elastic) waves in the temporally and spatially varying ocean environment.
- **Remote Sensing and Space** This program investigates physical and chemical processes that govern active and passive electromagnetic spectrum scattering from the Earth's surface, and propagation through the upper atmosphere and the near space environment. Of particular interest for surface effects is short water wave roughness modulation mechanisms; surfactant effects; intermittency in wave breaking and non-linear water waves.
- **Coastal Geosciences** The Coastal Geosciences program comprises the former Marine Geosciences and Coastal Dynamics programs and also includes the Mine Burial Prediction program. The Coastal Geosciences program funds basic and applied research in two main areas: predicting the 4D nearshore environment and predicting seafloor characteristics in the global ocean margins.
- **Maritime Sensors** This program conducts multidisciplinary science and technology development in all aspects of maritime sensor systems for Navy surface ship, submarine, aircraft, or fixed ocean applications. These systems may be carried as on-board equipment or deployed and operated autonomously or remotely as mobile or fixed equipment.

Sensing and Systems Teams (continued)

- **Ocean Engineering and Marine Systems** The Basic Research component of the program seeks to provide fundamental knowledge in interdisciplinary areas required for the development of innovative concepts for rapidly deployable, unmanned Marine Platform Systems in support of a broader more effective Naval presence at sea and in the littorals. Applied Research and Advanced Technology Development projects supporting the Organic Mine Countermeasures Future Naval Capability, in particular, Naval Special Warfare (NSW), Explosive Ordnance Disposal (EOD), and United States Marine Corps Amphibious Landing Force operations.
- **Undersea Signal Processing** The Undersea Signal Processing program seeks to develop signal processing algorithms that improve the Navy's ability to rapidly detect, identify and locate submarines and torpedoes. To this end, the program funds basic and applied research projects executed at universities, Federal laboratories and industry.
- **Research Facilities** The Research Facilities program manages, under a charter party agreement with selected universities, the operation and maintenance of all oceanographic research vessels owned by ONR for Department of the Navy. As part of the management of the ONR fleet, the program actively supports fleet modernization to maintain the level of excellence that is required to support cutting edge oceanographic research.

Processes and Prediction Teams

- **Physical Oceanography** The missions of the Physical Oceanography Program were recently modified to reflect its merger with the Ocean Modeling and Prediction Program. This program now supports the study of both processes and prediction of the physical aspects of the ocean. The program sponsors state of the art research in areas of interest to the Navy and the Marine Corps.
- **Ocean Optics and Biology** This program funds projects focused on elucidating the optical and biological processes in the world ocean. Investments in optics support basic and applied long-term research leading to a more complete understanding of how light interacts with the ocean environment, including the surface, volume, and sea floor. Biological oceanographic investments are directed primarily at understanding the distribution, growth, and abundance of biota in the coastal ocean and shallow-water sediments, focusing especially on those organisms that affect or control the bulk optical and acoustical properties of the ocean.
- **Marine Meteorology** The Marine Meteorology Program sponsors innovative basic and applied research in the broad thrust areas of Atmospheric Prediction, Atmospheric Effects and Air-sea Interaction/Marine Boundary Layer. Emphasis is placed on research topics that aim to improve the modeling and prediction of environmental parameters critical to Navy and Marine Corps operations in marine and littoral zones world-wide, such as, mission planning, tactical sensor support, training and systems development.

Probable OAS Support Requirements

- **Technical, Programmatic and Engineering Support Services** Assist OAS personnel in overall technical program management support on matters and issues consistent with OAS sponsored development projects, which includes the following: assisting in the program/project planning, program staff coordination, program/project/financial reviews, technology assessments, test/demonstration services, data analyses, environmental assessments/monitoring, and program-specific financial issues.
- **Conference/Event Support Services** Provide conference/event support, planning, and production as required (from small to large, domestic and international, classified and unclassified). These conferences and events may have a variety of purposes and objectives, and could be in a variety of forms (For example: Symposiums, Career Fairs, Banquets, Industry Days, Networking Meetings, Guest Lectures, Special Events, etc).
- **Administrative Support Services** Key support includes, but is not limited to, the following travel related services: Administer, prepare and facilitate travel arrangements, schedules, billing and record keeping. Support planning/execution/liquidation of Government sponsored travel. Research travel and meeting schedules, lodging, and other travel-related items. Prepare travel documentation, as required, and maintains database related to obligations and liquidations of travel expenses.